

## WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA  
(Pennsylvania Water-Quality Network Station)

**LOCATION.**--Lat 41°19'02", long 78°06'12", Cameron County, Hydrologic Unit 02050202, on left bank 0.2 mi upstream from Grove Run, and 0.7 mi upstream from Penn Central Railroad bridge at Sinnemahoning.

**DRAINAGE AREA.**--685 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

**PERIOD OF RECORD.**--July 1938 to current year. Prior to October 1938 monthly discharge only, published in WSP 1302.

**GAGE.**--Water-stage recorder. Datum of gage is 769.36 ft above National Geodetic Vertical Datum of 1929.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Maximum stage known, 21.94 ft, Mar. 18, 1936, from floodmark, discharge, 61,200 ft<sup>3</sup>/s, from rating curve extended above 31,000 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 21.58 ft.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than a base discharge of 8,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)	Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)
Jan. 1	0400	10,200	7.83	July 28	0615	9,440	7.54
Mar. 19	0045	11,400	8.32	Aug. 1	1100	*16,400	*10.11
Apr. 5	1600	9,940	7.74	Aug. 10	0515	12,600	8.76

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	300	548	2320	e300	e1200	1320	541	2590	315	10000	301
2	104	316	474	8540	e340	e1100	1810	642	2210	274	7220	2480
3	88	299	e450	5130	e500	e970	1980	631	1950	248	4480	2080
4	84	281	e400	3440	e700	e1000	1980	540	2040	228	5140	2530
5	82	274	e360	2480	e1400	e1100	7320	538	1960	211	4090	2340
6	86	414	e420	1960	e1200	e930	7290	705	1750	199	3290	1720
7	77	633	e380	1580	e1100	e910	4870	1060	1760	197	2460	1330
8	62	523	e360	1380	e1000	e1100	3630	1330	1880	248	2030	1060
9	53	457	e340	1310	e800	e1300	2950	1700	2110	294	2200	869
10	48	410	e300	1330	e700	e1400	2540	1770	1940	238	9170	737
11	47	436	e360	1120	e640	e1400	2280	1820	1770	340	4960	621
12	46	494	e440	947	e580	e1300	2180	1890	1810	324	4020	530
13	47	459	e560	839	e640	e1400	1860	1800	2600	219	2760	471
14	48	431	e700	826	e580	e1600	1610	1600	2320	178	1920	475
15	50	401	e1800	e760	e620	e2200	1440	1400	1890	147	1400	488
16	59	422	1340	e700	e500	3690	1300	1590	1460	139	1170	1250
17	108	1650	1050	e640	e440	7270	1210	1670	1150	136	1090	720
18	157	2240	875	e580	e490	10400	1080	1520	1110	118	839	558
19	129	1610	879	e500	e500	9840	970	1390	987	157	689	761
20	191	1320	2410	e580	e460	8200	895	1230	864	143	579	1470
21	195	1070	4060	e540	e510	9820	891	1790	990	169	505	1110
22	141	996	3000	e500	e900	8190	1030	1540	983	2660	453	1000
23	112	956	2270	e440	e1400	5760	905	1420	798	2940	406	3380
24	97	816	1710	e420	e2200	4160	815	1780	678	2360	350	2920
25	88	747	1500	e380	e2000	3320	767	1750	578	2880	313	2350
26	452	688	1250	e400	e1800	2830	750	1750	501	1830	299	1950
27	648	640	1000	e360	e1600	2290	724	1620	441	1310	411	1740
28	392	582	869	e320	e1300	1850	647	1680	393	7500	362	6220
29	301	541	812	e340	---	1660	601	1480	348	4230	288	4560
30	275	549	719	e320	---	1620	563	1280	331	2500	327	3090
31	292	---	739	e320	---	1440	---	1410	---	1580	369	---
TOTAL	4693	20955	32375	41302	25200	101250	58208	42867	42192	34312	73590	51111
MEAN	151	698	1044	1332	900	3266	1940	1383	1406	1107	2374	1704
MAX	648	2240	4060	8540	2200	10400	7320	1890	2600	7500	10000	6220
MIN	46	274	300	320	300	910	563	538	331	118	288	301
CFSM	0.22	1.02	1.52	1.94	1.31	4.77	2.83	2.02	2.05	1.62	3.47	2.49
IN.	0.25	1.14	1.76	2.24	1.37	5.50	3.16	2.33	2.29	1.86	4.00	2.78

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2003, BY WATER YEAR (WY)

MEAN	457	949	1266	1240	1450	2442	2312	1598	854	424	328	335
MAX	2186	4836	2883	4349	3732	5608	5500	3771	4066	2134	2596	1706
(WY)	1991	1951	1973	1952	1976	1945	1940	1953	1972	1992	1994	1975
MIN	31.5	52.0	64.1	91.8	257	771	556	313	97.3	37.9	28.7	29.6
(WY)	1965	1965	1961	1961	1963	1981	1946	1941	1999	1966	1957	1939

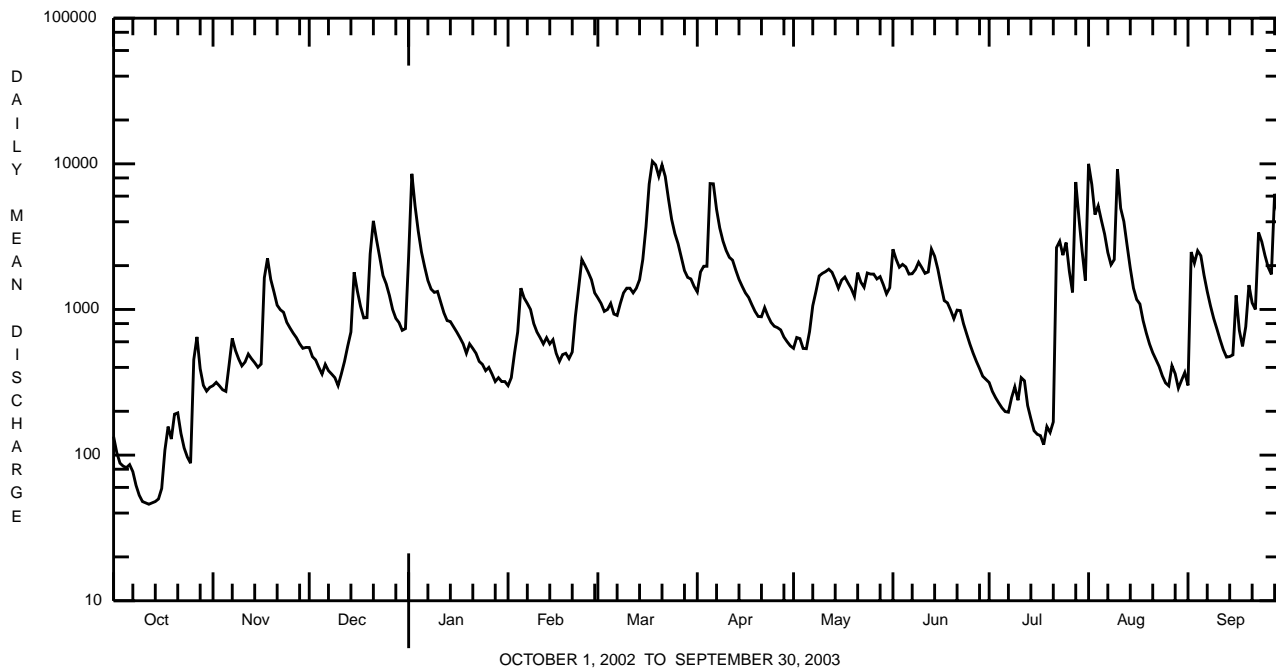
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA--Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1939 - 2003	
ANNUAL TOTAL	387721		528055			
ANNUAL MEAN	1062		1447		1136	
HIGHEST ANNUAL MEAN					1798	1951
LOWEST ANNUAL MEAN					705	1999
HIGHEST DAILY MEAN	14700	May 13	10400	Mar 18	44000	Jun 23 1972
LOWEST DAILY MEAN	13	Sep 13,14	46	Oct 12	1.4	Sep 3 1939
ANNUAL SEVEN-DAY MINIMUM	15	Sep 8	48	Oct 9	4.2	Aug 29 1939
MAXIMUM PEAK FLOW			16400	Aug 1	<sup>a</sup> 60800	Jun 23 1972
MAXIMUM PEAK STAGE			10.11	Aug 1	21.78	Jun 23 1972
INSTANTANEOUS LOW FLOW					1.2	Sep 4 1939
ANNUAL RUNOFF (CFSM)	1.55		2.11		1.66	
ANNUAL RUNOFF (INCHES)	21.06		28.68		22.53	
10 PERCENT EXCEEDS	2670		2930		2750	
50 PERCENT EXCEEDS	633		910		563	
90 PERCENT EXCEEDS	47		216		70	

<sup>a</sup> From rating curve extended above 31,000 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 21.58 ft.



## WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA--Continued  
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## WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 368-434.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd $\mu$ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water unfltrd recover -able, mg/L (00916)	Magnesium, water, unfltrd recover -able, mg/L (00927)	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (00417)
NOV 2002 07...	1530	1028	9813	614	40	12.6	7.1	132	6.4	48	11.8	4.5	8
JAN 2003 13...	0930	1028	9813	823	40	14.8	7.6	79	.0	30	7.8	2.6	7
MAR 10...	1500	1028	9813	E1400	40	14.3	5.8	282	.0	31	7.9	2.8	7
MAY 12...	0900	1028	9813	1870	40	9.7	7.6	64	13.9	27	6.8	2.5	8
JUL 14...	1130	1028	9813	180	40	8.4	6.5	137	23.8	45	11.2	4.3	10
SEP 15...	1400	1028	9813	422	40	9.2	7.5	91	20.4	34	8.8	3.0	12

Date	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC, wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water, unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recover -able, $\mu$ g/L (01105)	Copper, water, unfltrd recover -able, $\mu$ g/L (01042)	Iron, water, unfltrd recover -able, $\mu$ g/L (01045)
NOV 2002 07...	37.3	104	4	.020	.02	<.040	<.01	<.010	.32	1.4	--	<10	194
JAN 2003 13...	24.2	8	<2	<.020	.27	<.040	<.01	<.010	.22	.8	<200	<10	180
MAR 10...	21.7	70	12	<.020	.33	<.040	.01	.017	.38	.9	700	<10	720
MAY 12...	20.1	62	4	<.020	.08	<.040	.01	.017	.17	1.2	<200	<10	140
JUL 14...	37.3	110	<2	.050	.08	<.040	<.01	.012	.15	1.2	<200	<10	100
SEP 15...	21.2	104	<2	<.020	.12	<.040	<.01	<.010	.12	1.1	<200	<10	70

Date	Lead, water, unfltrd recover -able, $\mu$ g/L (01051)	Manganese, water, unfltrd recover -able, $\mu$ g/L (01055)	Nickel, water, unfltrd recover -able, $\mu$ g/L (01067)	Zinc, water, unfltrd recover -able, $\mu$ g/L (01092)
NOV 2002 07...	<1.0	200	<50	<10
JAN 2003 13...	<1.0	130	<50	10
MAR 10...	<1.0	140	<50	10
MAY 12...	<1.0	80	<50	10
JUL 14...	<1.0	50	<50	50
SEP 15...	<1.0	30	<50	<10

## WEST BRANCH SUSQUEHANNA RIVER BASIN

## 01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA--Continued

BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using rapid bioassessment protocols for benthic macroinvertebrates using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 (approximate) subsamples.

Date	8/14/02
Benthic Macroinvertebrate	Count
Mollusca	
Gastropoda (SNAILS)	2
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	7
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	9
<u>Heterocloeon</u> sp	6
Heptageniidae	
<u>Epeorus</u> sp	5
<u>Leucrocuta</u> sp	4
<u>Stenacron</u> sp	11
<u>Stenonema</u> sp	8
Isonychiidae	
<u>Isonychia</u> sp	6
Plecoptera (STONEFLIES)	
Perlidae	
<u>Acroneuria</u> sp	4
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<u>Corydalis</u> sp	1
<u>Nigronia</u> sp	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	7
<u>Hydropsyche</u> sp	14
<u>Macrostemum</u> sp	3
Hydroptilidae	
<u>Hydroptila</u> sp	3
Leptoceridae	
<u>Oecetis</u> sp	1
Philopotamidae	
<u>Chimarra</u> sp	34
Polycentropodidae	
<u>Cernotina</u> sp	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	7
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	4
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	22
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	19
Total Organisms	179